

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-28 (cancelled).

29. (new) A method for preparing a biological fertilizer composition comprising in the order stated:

- (I) mixing (a) at least one of a first yeast cell component, a second yeast cell component, or a third yeast cell component; and (b) at least one of a fourth yeast cell component, a fifth yeast cell component, or a sixth yeast cell component to form a mixture of yeast cells; and
- (II) adding swine manure to said mixture of yeast cells to form said biological fertilizer composition,

wherein said first yeast cell component is prepared by culturing a first plurality of yeast cells in a first electromagnetic field having a frequency in the range of 840 to 916 MHz and a field strength of 10 to 200 mV/cm, and said first yeast cell component is characterized by an enhanced ability to fix nitrogen as compared to yeast cells not having been so cultured;

said second yeast cell component is prepared by culturing a second plurality of yeast cells in a second electromagnetic field having a frequency in the range of 300 to 500 MHz and a field strength of 10 to 300 mV/cm, and said second yeast cell component is characterized by an enhanced ability to decompose phosphorous compounds as compared to yeast cells not having been so cultured;

said third yeast cell component is prepared by culturing a third plurality of yeast cells in a third electromagnetic field having a frequency in the range of 190 to 285 MHz and a field strength of 10 to 200 mV/cm, and said third yeast cell component is characterized by an enhanced ability to decompose potassium compounds as compared to yeast cells not having been so cultured;

said fourth yeast cell component is prepared by culturing a fourth plurality of yeast cells in a fourth electromagnetic field having a frequency in the range of 30 to 50 MHz and a field strength of 10 to 180 mV/cm, and said fourth yeast cell component is characterized by an enhanced ability to suppress the growth of pathogenic microorganisms as compared to yeast cells not having been so cultured;

said fifth yeast cell component is prepared by culturing a fifth plurality of yeast cells in a fifth electromagnetic field having a frequency in the range of 70 to 100 MHz and a field strength of 40 to 250 mV/cm, and said fifth yeast cell component is characterized by an enhanced ability to degrade antibiotics as compared to yeast cells not having been so cultured; and

said sixth yeast cell component is prepared by culturing a sixth plurality of yeast cells in a sixth electromagnetic field having a frequency in the range of 2160 to 2250 MHz and 2280 to 2380 MHz and a field strength of 30 to 310 mV/cm, and said sixth yeast cell component is characterized by an enhanced ability to reduce the odor of the biological fertilizer composition as compared to yeast cells not having been so cultured.

30. (new) A method for preparing a biological fertilizer composition comprising in the order stated:

- (I) culturing (a) at least one of (i) a first plurality of yeast cells in a first electromagnetic field having a frequency in the range of 840 to 916 MHz and a field strength of 10 to 200 mV, said first plurality of yeast cells being characterized by an enhanced ability to fix nitrogen as compared to yeast cells not having been so cultured; (ii) a second plurality of yeast cells in a second electromagnetic field having a frequency in the range of 300 to 500 MHz and a field strength of 10 to 300 mV, said second plurality of yeast cells being characterized by an enhanced ability to decompose phosphorous compounds as compared to yeast cells not having been so cultured; or (iii) a third plurality of yeast cells in a third electromagnetic field having a frequency in the range of 190 to 285 MHz and a field strength of 10 to 200 mV, said third plurality of yeast cells being characterized by an enhanced ability to decompose potassium compounds as compared to yeast cells not having been so cultured; and (b) at least one of (iv) a fourth plurality of yeast cells in a fourth electromagnetic field having a frequency in the range of 30 to 50 MHz and a field strength of 10 to 180 mV, said fourth plurality of yeast cells being characterized by an enhanced ability to suppress the growth of pathogenic microorganisms as compared to yeast cells not having been so cultured; (v) a fifth plurality of yeast cells in a fifth electromagnetic field having a frequency in the range of 70 to 100 MHz and a field strength of 40 to 250 mV, said fifth plurality of yeast cells being characterized by an enhanced ability to degrade antibiotics as compared to yeast cells not having been so cultured; or (vi) a sixth plurality of

yeast cells in a sixth electromagnetic field having a frequency in the range of 2160 to 2250 MHz and 2280 to 2380 MHz and a field strength of 30 to 310 mV, said sixth plurality of yeast cells being characterized by an enhanced ability to reduce the odor of the biological fertilizer composition as compared to yeast cells not having been so cultured; and

(II) adding swine manure to the cultured yeast cells of step (I) to form said biological fertilizer composition.

31. (new) The method of claim 29, wherein step (I) further comprises mixing at least one of a seventh yeast cell component, an eighth yeast cell component, or a ninth yeast cell component,

wherein said seventh yeast cell component is prepared by culturing a seventh plurality of yeast cells in a seventh electromagnetic field having a frequency in the range of 1050 to 1160 MHz and a field strength of 10 to 200 mV/cm, and said seventh yeast cell component is characterized by an enhanced ability to convert complex carbon compounds to simple carbohydrates as compared to yeast cells not having been so cultured;

said eighth yeast cell component is prepared by culturing an eighth plurality of yeast cells in an eighth electromagnetic field having a frequency in the range of 1340 to 1440 MHz and a field strength of 20 to 200 mV/cm, and said eighth yeast cell component is characterized by an enhanced ability to overproduce growth factors as compared to yeast cells not having been so cultured;

said ninth yeast cell component is prepared by culturing a ninth plurality of yeast cells in a ninth electromagnetic field having a frequency in the range of 1630 to 1730 MHz and a field strength of 20 to 200 mV/cm, and said ninth yeast cell component is characterized by an enhanced ability to overproduce adenosine triphosphate as compared to yeast cells not having been so cultured.

32. (new) The method of claim 30 further comprising culturing at least one of (vii) a seventh plurality of yeast cells in a seventh electromagnetic field having a frequency in the range of 1050 to 1160 MHz and a field strength of 10 to 200 mV/cm, said seventh plurality of yeast cells being characterized by an enhanced ability to convert complex carbon compounds to simple carbohydrates as compared to yeast cells not having been so cultured; (viii) an eighth plurality of yeast cells in an eighth electromagnetic field having a frequency in the range of 1340 to 1440 MHz and a field strength of 20 to 200 mV/cm, said eighth plurality of yeast cells being characterized by an enhanced ability to overproduce growth factors as compared to yeast cells not having been so cultured; or (ix) a ninth plurality of yeast cells in a

ninth electromagnetic field having a frequency in the range of 1630 to 1730 MHz and a field strength of 20 to 200 mV/cm, said ninth plurality of yeast cells being characterized by an enhanced ability to overproduce adenosine triphosphate as compared to yeast cells not having been so cultured, and mixing the cultured yeast cells of step (I), with said seventh, eighth and/or ninth plurality of yeast cells.

33. (new) The method of claims 29 or 31, wherein step (II) further comprises adding starch to said mixture of yeast cells.

34. (new) The method of claims 29 or 31, wherein step (II) further comprises adding an inorganic substrate component to said mixture of yeast cells.

35. (new) The method of claim 34, wherein the inorganic substrate component comprises one or more of rock phosphate, apatite, phosphorite, sylvinitic, halite, carnalitite, or potassium mica.

36. (new) The method of claims 30 or 32, wherein step (II) further comprises adding starch to the cultured yeast cells of step (I).

37. (new) The method of claims 30 or 32, wherein step (II) further comprises adding an inorganic substrate component to the cultured yeast cells of step (I).

38. (new) The method of claim 37, wherein the inorganic substrate component comprises one or more of rock phosphate, apatite, phosphorite, sylvinitic, halite, carnalitite, or potassium mica.

39. (new) The method of claim 29, 30, 31 or 32 further comprising in the order stated:

- (III) drying said biological fertilizer composition at a temperature not exceeding 65°C for a period such that the yeast cells become dormant;
- (IV) drying said biological fertilizer composition at a temperature not exceeding 70°C for a period such that the water content is less than 5%;
- (V) cooling said biological fertilizer composition to ambient temperature; and
- (VI) forming granules of said biological fertilizer composition.

40. (new) The method of claim 29, 30, 31 or 32, wherein each yeast cell component comprises yeast cells of the genus *Saccharomyces*.

41. (new) The method of claim 29, 30, 31 or 32, wherein each yeast cell component separately comprises cells of a species of yeast selected from the group consisting of

Saccharomyces cerevisiae, *Saccharomyces chevalieri*, *Saccharomyces delbrueckii*, *Saccharomyces exiguum*, *Saccharomyces fermentati*, *Saccharomyces logos*, *Saccharomyces mellis*, *Saccharomyces microellipsoides*, *Saccharomyces oviformis*, *Saccharomyces rosei*, *Saccharomyces rouxii*, *Saccharomyces sake*, *Saccharomyces uvarum Beijer*, *Saccharomyces willianus*, *Saccharomyces ludwigii*, *Saccharomyces sinenses*, and *Saccharomyces carlsbergensis*.

42. (new) The method of claim 29, 30, 31 or 32, wherein each yeast cell component separately comprises cells of a strain of yeast selected from the group consisting of *Saccharomyces cerevisiae* Hansen, ACCC2034, ACCC2035, ACCC2036, ACCC2037, ACCC2038, ACCC2039, ACCC2040, ACCC2041, ACCC2042, AS2.1, AS2.4, AS2.11, AS2.14, AS2.16, AS2.56, AS2.69, AS2.70, AS2.93, AS2.98, AS2.101, AS2.109, AS2.110, AS2.112, AS2.139, AS2.173, AS2.174, AS2.182, AS2.196, AS2.242, AS2.336, AS2.346, AS2.369, AS2.374, AS2.375, AS2.379, AS2.380, AS2.382, AS2.390, AS2.393, AS2.395, AS2.396, AS2.397, AS2.398, AS2.399, AS2.400, AS2.406, AS2.408, AS2.409, AS2.413, AS2.414, AS2.415, AS2.416, AS2.422, AS2.423, AS2.430, AS2.431, AS2.432, AS2.451, AS2.452, AS2.453, AS2.458, AS2.460, AS2.463, AS2.467, AS2.486, AS2.501, AS2.502, AS2.503, AS2.504, AS2.516, AS2.535, AS2.536, AS2.558, AS2.560, AS2.561, AS2.562, AS2.576, AS2.593, AS2.594, AS2.614, AS2.620, AS2.628, AS2.631, AS2.666, AS2.982, AS2.1190, AS2.1364, AS2.1396, IFFI 1001, IFFI 1002, IFFI 1005, IFFI 1006, IFFI 1008, IFFI 1009, IFFI 1010, IFFI 1012, IFFI 1021, IFFI 1027, IFFI 1037, IFFI 1042, IFFI 1043, IFFI 1045, IFFI 1048, IFFI 1049, IFFI 1050, IFFI 1052, IFFI 1059, IFFI 1060, IFFI 1063, IFFI 1202, IFFI 1203, IFFI 1206, IFFI 1209, IFFI 1210, IFFI 1211, IFFI 1212, IFFI 1213, IFFI 1215, IFFI 1220, IFFI 1221, IFFI 1224, IFFI 1247, IFFI 1248, IFFI 1251, IFFI 1270, IFFI 1277, IFFI 1287, IFFI 1289, IFFI 1290, IFFI 1291, IFFI 1291, IFFI 1292, IFFI 1293, IFFI 1297, IFFI 1300, IFFI 1301, IFFI 1302, IFFI 1307, IFFI 1308, IFFI 1309, IFFI 1310, IFFI 1311, IFFI 1331, IFFI 1335, IFFI 1336, IFFI 1337, IFFI 1338, IFFI 1339, IFFI 1340, IFFI 1345, IFFI 1348, IFFI 1396, IFFI 1397, IFFI 1399, IFFI 1411, IFFI 1413; *Saccharomyces cerevisiae* Hansen Var. ellipsoideus (Hansen) Dekker, ACCC2043, AS2.2, AS2.3, AS2.8, AS2.53, AS2.163, AS2.168, AS2.483, AS2.541, AS2.559, AS2.606, AS2.607, AS2.611, AS2.612; *Saccharomyces chevalieri* Guillermont, AS2.131, AS2.213; *Saccharomyces delbrueckii*, AS2.285; *Saccharomyces delbrueckii* Lindner var. mongolicus Lodder et van Rij, AS2.209, AS2.1157; *Saccharomyces exiguum* Hansen, AS2.349, AS2.1158; *Saccharomyces fermentati* (Saito) Lodder et van Rij, AS2.286, AS2.343; *Saccharomyces logos* van laer et Denamur ex Jorgensen, AS2.156, AS2.327, AS2.335;

Saccharomyces mellis Lodder et Kreger Van Rij, AS2.195; *Saccharomyces microellipsooides* Osterwalder, AS2.699; *Saccharomyces oviformis* Osterwalder, AS2.100; *Saccharomyces rosei* (Guilliermond) Lodder et kreger van Rij, AS2.287; *Saccharomyces rouxii* Boutroux, AS2.178, AS2.180, AS2.370, AS2.371; *Saccharomyces sake* Yabe, ACCC2045; *Saccharomyces carlsbergensis* Hansen, ACCC2032, ACCC2033, AS2.113, AS2.116, AS2.118, AS2.121, AS2.132, AS2.162, AS2.189, AS2.200, AS2.216, AS2.265, AS2.377, AS2.417, AS2.420, AS2.440, AS2.441, AS2.443, AS2.444, AS2.459, AS2.595, AS2.605, AS2.638, AS2.742, AS2.745, AS2.748, AS2.1042; *Saccharomyces uvarum* Beijer, IFFI 1023, IFFI 1032, IFFI 1036, IFFI 1044, IFFI 1072, IFFI 1205, IFFI 1207; *Saccharomyces willianus* Saccardo, AS2.5, AS2.7, AS2.119, AS2.152, AS2.293, AS2.381, AS2.392, AS2.434, AS2.614, AS2.1189; *Saccharomyces sp.*, AS2.311; *Saccharomyces ludwigii* Hansen, ACCC2044, AS2.243, AS2.508; and *Saccharomyces sinenses* Yue, AS2.1395.

43. (new) The method of claim 29, 30, 31 or 32, wherein each yeast cell component comprises cells of *Saccharomyces cerevisiae*.

44. (new) The method of claim 29, 30, 31 or 32, wherein said first yeast cell component comprises cells of the yeast strain *Saccharomyces cerevisiae* AS2.628; said second yeast cell component comprises cells of the yeast strain *Saccharomyces cerevisiae* AS2.399; said third yeast cell component comprises cells of the yeast strain *Saccharomyces cerevisiae* AS2.631; said fourth yeast cell component comprises cells of the yeast strain *Saccharomyces cerevisiae* IFF1037, IFFI1021, IFFI1051, IFFI1345 or IFFI1211; said fifth yeast cell component comprises cells of the yeast strain *Saccharomyces cerevisiae* AS2.561, IFFI1063, IFFI1221, IFFI1340, IFFI1215, IFFI1213, IFFI1206, IFFI1211, IFFI1210 or IFFI1260; and said sixth yeast cell component comprises cells of the yeast strain *Saccharomyces cerevisiae* AS2.559, AS2.423, AS2.612, AS2.53, AS2.541 or AS2.163.

45. (new) The method of claim 31 or 32, wherein said seventh yeast cell component comprises cells of the yeast strain *Saccharomyces cerevisiae* AS2.982; said eighth yeast cell component comprises cells of the yeast strain *Saccharomyces cerevisiae* AS2.413; and said ninth yeast cell component comprises cells of the yeast strain *Saccharomyces cerevisiae* AS2.536.

46. (new) The method of claim 29 or 31, wherein step (I) comprises mixing said first yeast cell component, said second yeast cell component, said third yeast cell component, said fourth yeast cell component, said fifth yeast cell component, and said sixth yeast cell component.

47. (new) The method of claim 31, wherein step (I) comprises mixing said first yeast cell component, said second yeast cell component, said third yeast cell component, said fourth yeast cell component, said fifth yeast cell component, said sixth yeast cell component, said seventh yeast cell component, said eighth yeast cell component, and said ninth yeast cell component.

48. (new) The method of claim 30 or 32, wherein step (I) comprises culturing said first plurality of yeast cells in said first electromagnetic field; culturing said second plurality of yeast cells in said second electromagnetic field; culturing said third plurality of yeast cells in said third electromagnetic field; culturing said fourth plurality of yeast cells in said fourth electromagnetic field; culturing said fifth plurality of yeast cells in said fifth electromagnetic field; and culturing said sixth plurality of yeast cells in said sixth electromagnetic field.

49. (new) The method of claim 32, wherein step (I) comprises culturing said first plurality of yeast cells in said first electromagnetic field; culturing said second plurality of yeast cells in said second electromagnetic field; culturing said third plurality of yeast cells in said third electromagnetic field; culturing said fourth plurality of yeast cells in said fourth electromagnetic field; culturing said fifth plurality of yeast cells in said fifth electromagnetic field; culturing said sixth plurality of yeast cells in said sixth electromagnetic field; culturing said seventh plurality of yeast cells in said seventh electromagnetic field; culturing said eighth plurality of yeast cells in said eighth electromagnetic field; and culturing said ninth plurality of yeast cells in said ninth electromagnetic field.